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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/505,270	08/20/2004	Herman Petrus Van Der Kall	NL 020151	5515

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EXAMINER	
LAMB, CHRISTOPHER RAY	
ART UNIT	PAPER NUMBER
2627	
MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/505,270	VAN DER KALL ET AL.	
	Examiner	Art Unit	
	Christopher R. Lamb	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 June 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. In view of the appeal brief filed on June 30th, 2008, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 recites the limitation "said single threshold voltage indicating signal" in line 10. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 2, 3, 5, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Tani (US 5,233,596).

Regarding claim 2:

Tani discloses:

A method of operating a disc drive having a semi-conductor laser device, the method comprising the steps of:

applying electrical power to said semi-conductor laser device (column 3, lines 10-20);

measuring a light intensity of a laser beam generated by said semi-conductor laser device (column 3, lines 1-20);

controlling said electrical power such that said light intensity remains constant (column 3, lines 1-20);

measuring at least one electrical parameter indicative of the work point of said semi-conductor laser (column 3, lines 30-50); and

determining said operational temperature on the basis of a predetermined relationship between said work point on the one hand and said operational temperature on the other hand (column 3, lines 30-50).

Regarding claim 3:

Tani discloses:

wherein the method further comprises the steps of:

taking temperature reducing steps if the measured value of said at least one electrical parameter indicates that the operational temperature of the laser device has reached a predetermined critical temperature (column 4, lines 35-60: shutting off the laser is a “temperature reducing step.”).

Regarding claim 5:

Tani discloses:

wherein the at least one electrical parameter is compared with a predetermined parameter level (column 4, lines 35-60: the temperature is compared to a predetermined value, and since the temperature is determined based on the electrical parameter, it is compared to the corresponding value).

Regarding claim 6:

Tani discloses:

wherein said electrical parameter is measured at a certain known temperature, this measured value being taken as zero value (column 3, lines 30-50: relationship between the current and temperature are pre-stored in the device, and therefore the current must have been measured at a known temperature);

wherein said electrical parameter is measured during operation of the disc drive to yield an actual value (column 3, lines 30-50); and

wherein the difference between the actual value of said electrical parameter and said zero value is compared with a predetermined threshold (column 3, lines 45-50: it detects the temperature based on the variance, so it must be comparing the difference).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 7/3, 7/5, 7/6, 8/7/3, 8/7/5, 8/7/6, 9-11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tani in view of Ottesen et al. (US 5,764,430).

Regarding claims 7/3 and 7/6:

Tani discloses a method as discussed above.

Tani does not disclose:

wherein said temperature reducing steps comprise the step of operating a cooling device or a ventilator, or the step of reducing a clock frequency, or the step of reducing a rotational speed of a motor of said disc drive.

Ottesen discloses:

wherein a temperature reducing step comprises the step of reducing a rotational speed of a motor of said disc drive (column 6, lines 40-60).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Tani wherein said temperature reducing steps comprise the step of operating a cooling device or a ventilator, or the step of reducing a clock frequency,

or the step of reducing a rotational speed of a motor of said disc drive, as taught by Ottesen.

The motivation would have been to avoid errors and/or failure, without the drastic step disclosed by Tani of shutting off the laser (which would end reproduction or recording).

Regarding claims 8/7/3, 8/7/5, and 8/7/6:

Tani in view of Ottesen discloses:

wherein a rotational speed of a motor of said disc drive is reduced when said electrical parameter reaches a first predetermined parameter level indicative of said semi-conductor laser device having reached a predetermined critical temperature (Ottesen discloses it is reduced when the temperature reaches a threshold, and Tani uses the electrical parameter to measure the temperature),

and wherein the rotational speed of said motor of said disc drive is increased when said electrical parameter reaches a second predetermined parameter level indicative of said semi-conductor laser device having reached a normal temperature (Ottesen discloses in, e.g., column 5, lines 15-30, that the appropriate speed is chosen in response to the sensor; when the temperature is normal the original speed is the appropriate one).

Regarding claim 9:

Tani in view of Ottesen discloses:

Disc drive (1), comprising:

a disc drive motor for rotating an optical disc (e.g., Ottesen column 4, lines 40-50);

a laser device for generating a laser beam for scanning the optical disc (Tani column 2, lines 60-70);

a control unit controlling the disc drive motor and the laser device (Tani Fig. 1);

wherein the control unit (5) is designed to monitor at least one electrical parameter indicative of the work point of a semi-conductor laser of said laser device (Tani column 3, lines 30-50), and

to take temperature affecting steps in dependency of said at least one electrical parameter (Ottesen column 6, lines 40-60).

Regarding claim 10:

Tani in view of Ottesen discloses:

wherein the control unit controls the rotational speed of said disc drive motor in dependence on said at least one electrical parameter (taught by Ottesen as discussed above).

Regarding claims 11/9, 11/10, 13/11/9, and 13/11/10:

All elements positively recited have already been identified with respect to earlier rejections. No further elaboration is necessary.

8. Claims 4, 7/4, 8/4, 12/11/9 and 12/11/10 rejected under 35 U.S.C. 103(a) as being unpatentable over Tani in view of Ottesen as applied to claims 11/9 and 11/10 above, and further in view of Sawai (US 4,604,753).

Regarding claims 12/11/9 and 12/11/10:

Tani in view of Ottesen discloses a disc drive as discussed above.

Tani in view of Ottesen does not disclose:

wherein said at least one electrical parameter comprises an output voltage of the control unit (instead, it is a current, as discussed above).

Sawai discloses that the temperature of a semiconductor laser can be monitored from its voltage (column 2, lines 59 to column 3, line 15).

Therefore it would have been obvious to one of ordinary skill in the art to include in Tani in view of Ottesen wherein said at least one electrical parameter comprises an output voltage of the control unit (that is, an output voltage instead of an output current), as taught by Sawai.

The rationale is as follows:

Monitoring the voltage or the current takes places in the same environment, for the same purpose, and achieves the same result. Therefore one of ordinary skill could have substituted one for the other with predictable results.

Regarding claim 4:

Tani in view of Ottesen does not disclose "measuring a plurality of electrical parameters," just one, the current.

However, Sawai teaches that the voltage can be monitored as discussed in the rejection of claim 12 above.

It would have been obvious to one of ordinary skill in the art to monitor both the current and the voltage, therefore measuring a plurality of electrical parameters indicative of the work point of said semi-conductor laser device, and wherein said

temperature reducing steps are taken if at least one of said plurality of electrical parameters indicates that the operational temperature of the laser device has reached a predetermined critical temperature.

The rationale is as follows:

Monitoring both voltage and current is more reliable than one alone.

Regarding claims 7/4 and 8/4:

All elements positively recited have already been identified with respect to earlier rejections. No further elaboration is necessary.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tani in view of Ottesen, and further in view of Sawai as applied to claim 12 above, and further in view of Official Notice.

Regarding claim 14:

Tani in view of Ottesen, and further in view of Sawai, discloses a disc drive device as discussed above.

Tani in view of Ottesen, and further in view of Sawai, does not disclose:

"wherein said disc drive device comprises a plurality of semi-conductor lasers;

wherein the control unit has a plurality of outputs each providing a corresponding control signal to a corresponding one of said semi-conductor lasers;

and wherein the control unit monitors a single signal indicative of a work point of only one of said semi-conductor lasers, and takes laser device temperature affecting steps in dependence on said single threshold voltage indicating signal."

The Examiner takes Official Notice that it is well known to include a plurality of semi-conductor lasers in a disc drive, in which only one is operating at a given time (e.g., a drive that has one laser to read DVDs and another to read CDs).

Therefore it would have been obvious to include in Tani in view of Ottesen, and further in view of Sawai, wherein said disc drive device comprises a plurality of semi-conductor lasers;wherein the control unit has a plurality of outputs each providing a corresponding control signal to a corresponding one of said semi-conductor lasers; and wherein the control unit monitors a single signal indicative of a work point of only one of said semi-conductor lasers, and takes laser device temperature affecting steps in dependence on said single threshold voltage indicating signal.

The motivation would have been to be able to read discs of different types (only a single signal is monitored because only one laser is in use at one time).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ku et al. (US 6,657,932) and Matsui (US 2001/005112) disclose monitoring the temperature and reducing the rotational speed; Nakatsuka (US 2001/0043530) discloses monitoring the temperature and adjusting the rotational speed; Takekoshi et al. (US 5,600,619) discloses that laser temperature can be measured from the voltage.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (571)

272-5264. The examiner can normally be reached on 9:00 AM to 5:30 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Joseph H. Feild/
Supervisory Patent Examiner, Art Unit 2627

CRL 7/15/08